

AMENDMENTS TO THE CLAIMS

Claims 1-199. (Canceled)

200. (Currently amended) A method of forming a photosensor comprising:

excavating a trench within a semiconductor substrate of a first conductivity type, said trench having a substantially vertical internal surface region and bottom surface region;

performing a first ion implantation of a second conductivity type into said substantially vertical internal surface region and bottom surface region at a first ion implantation angle; and

performing a second ion implantation of said second conductivity type into said substantially vertical internal surface region and bottom surface region at a second ion implantation angle, wherein said first implantation angle is orthogonal to said second ion implantation angle

~~forming an insulating layer that covers the vertical internal surface region and bottom surface region of said trench; and~~

~~forming a conductive layer that covers a substantial portion of said insulating layer.~~

201. (Canceled).

202. (Previously presented) A method of forming a photosensor as defined in claim 200 further comprising performing a plurality of ion implantations at a respective plurality of ion implantation angles.

203. (Previously presented) A method of forming a photosensor as defined in claim 200 further comprising applying a passivation layer above said substantially vertical internal surface region.

204. (Original) A method of forming a photosensor as defined in claim 203 wherein said passivation layer comprises silicon dioxide.

205. (Original) A method of forming a photosensor as defined in claim 203 wherein said passivation layer comprises Borosilicate glass.

206. (Original) A method of forming a photosensor as defined in claim 203 wherein said passivation layer comprises phospho-silicate glass.

207. (Original) A method of forming a photosensor as defined in claim 203 wherein said passivation layer comprises boron-phospho-silicate glass.

208. (Original) A method of forming a photosensor as defined in claim 203 further comprising chemical mechanical planarizing said passivation layer.

209. (Previously presented) A method of forming a photosensor as defined in claim 200, wherein said step of excavating a trench further comprises anisotropically etching said semiconductor substrate.

210. (New) A method of forming a photosensor as defined in claim 200 further comprising forming an insulating layer that covers the vertical internal surface region and bottom surface region of said trench.

211. (New) A method of forming a photosensor as defined in claim 210 further comprising forming a conductive layer that covers a substantial portion of said insulating layer.

212. (New) A method of forming a photosensor as defined in claim 200, wherein the first conductivity type is p-type, and the second conductivity is n-type.